

Abstract:

System for overcoming or at least damping oscillations  
(Figure 1)

In a system for overcoming or at least damping oscillations in or through channels (9) which carry fluid in a component, in particular coolant in cooling channels in an optical element (1), in particular a projection objective lens (1a) for semiconductor lithography, oscillations which occur are detected and evaluated by sensors (5), after which the result is passed, in the form of an adaptronic control loop to piezoelectric elements (9), which are integrated in the optical element, and are in the form of thin plates, films or layers which, when activated, produce the oscillations or frequencies which counteract oscillations and natural frequencies produced by the turbulence.

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